

## Remarks – General

By the above amendment, Applicant has changed the title to emphasize that the references to the sequence of remote information is constructed without any involvement, effort or changes by the content source or the remote server on which it is stored.

- 5 Also, Applicant has reduced the number and scope of, and rewritten the claims to more particularly and distinctly define the present invention so as to overcome the technical rejections and to define the present invention patentably over the prior art.

## The Objection to the Specification and the Claims Rejection under § 112.

- 10 Claims 1, 2, 6, 7, 15, 16, 20, 21, and 22 have been either cancelled or rewritten to so they are not vague and so that the limitations claimed are as disclosed in the specification.

## The Rejection of the Claims under § 103 on Eyal in view of Terek.

- 15 The prior art as taught by Eyal (US Patent 6,389,467) is for a streaming media search and playback system. Eyal teaches parsing web pages for media site Uniform Resource Locator (URL) links (Column 21 Lines 66-67, Column 22 Lines 26-30 and Lines 49-50, and Column 23 Line 63 to Column 24 Line 8) and entering these into a database (Column 22 Line 52-54 and Column 24 Lines 13-15).

- 20 Similar to a search engine (Column 21 Line 66 to Column 22 Line 3), Eyal only teaches indexing URLs which are found through simple crawling and parsing of web pages for specific media types (Column 23 Lines 29-31). Note that Eyal does not teach any analysis of the URLs themselves, as is crucial to the present invention. Eyal does not teach looking for patterns in media URLs. The shortcomings of Eyal's system compared to the present invention are detailed below:

- 1) As taught by Eyal, every reference needs to be separately stored (Column 14 Lines 46-49). Therefore, for example, for a single daily talk show, using Eyal's system, only three years of references would require storing more than 1,000 media URLs (365 per year).  
25 In contrast, using the present invention, only a single template would be required to represent any number of URLs in a sequence (specification, pages 9-10).
- 2) As taught by Eyal, newly available media URLs (such as a reference to the current day's edition of National Public Radio's *All Things Considered* show) will not be available to users until the next parsing operation (Column 14 Lines 17-49 and Column 21 Lines 55-57) completes, which may be days or weeks (Column 21 Lines 58-65).  
30 In contrast, the present invention teaches not only constructing URLs to periodically-updated media before any parsing of a web page occurs, but even before the URL is even posted to a web page. That is, the template of the present invention can be used to reference desired information as soon as it becomes available, without waiting for a search engine, such as Eyal's metacrawler to re-parse every page (specification, bottom of page 10, top of page 11, and 3<sup>rd</sup> bullet on page 19).
- 3) As taught by Eyal, only media references which can be parsed from a web page can be added to the database (Column 14 Lines 44-49). This is a significant shortcoming because to access periodically-updated content (such as a daily talk show or weekly report) which is archived, many web interfaces require the user to first specify a time period before a web page with media URLs is presented. For example, NPR's method (at <http://www.npr.org/templates/calendar/index.php?prgId=2>) is a  
40 three-step process:

- a) First a web page is presented to the user where the show's name and month is specified
- b) This results in a web page with a calendar being presented to the user, said user can then specify a specific date in said month
- c) This results in a web page being presented which finally has the media reference URLs

5 Since this last web page is custom-generated as a result of the user interaction in the first two steps, search engines and the method taught by Eyal will never find this archived media. Simply crawling and searching every NPR web page will only result in finding references to the most recent show (at <http://www.npr.org/templates/rundowns/rundown.php?prgId=2> for example), since there is a link to that page from NPR's home page.

10 In contrast, constructing references to such an archive of a sequence of desired information is exactly the goal of the present invention. Specifically, the present invention teaches recognizing patterns in the media URLs (specification, URLs 103 in FIG. 1 and page 9, second paragraph). So according to the present invention, if one notes that the media URLs for the above example of NPR's *All Things Considered* for three consecutive days in March 2005 are as follows:

- 15
- rtsp://real.npr.na-central.speedera.net:80/real.npr.na-central/atc/20050327\_atc\_xx.rm
  - rtsp://real.npr.na-central.speedera.net:80/real.npr.na-central/atc/20050328\_atc\_xx.rm
  - rtsp://real.npr.na-central.speedera.net:80/real.npr.na-central/atc/20050329\_atc\_xx.rm

20 Then one could determine the template required to construct the URL for any date (specification, pages 9-10). While the pattern of the above URLs is quickly determined once they are viewed, as noted in the specification (page 8, last paragraph), these URLs are not normally visible to the user, and specialized software or a protocol analyzer may be needed to determine the URLs (specification, bullets at bottom of page 8 and top of page 9). Therefore, this technique would not be obvious to one skilled in the art.

- 25
- 4) As taught by Eyal, all URLs and play-lists are generated by a central server (FIG. 10, Column 26 Lines 19-67). Therefore, the system as taught by Eyal can only provide URLs for media which was posted on a web page (as noted in point 3 above, this often does not include archived media), and then subsequently found by the metacrawler process taught by Eyal (Column 14 Lines 17-23, and this may be days or weeks later) and indexed (Column 14 Lines 44-49 and Column 22 Lines 26-58). While some manipulation of play-lists is taught (Column 13 Lines 12-16), Eyal does not teach
- 30
- referencing new media items before they have been posted on a web page and parsed.

In contrast, the present invention teaches utilizing an increment value (specification, pages 11-12) to construct references to media without said references even being posted on a web page. Simply specifying an offset value enables any of the sequence of references to media to be constructed.

35 Claim 1 has been cancelled and rewritten as new claim 23) to more particularly and narrowly define the invention, to address the Section 112 Rejection, and to make the wording more consistent.

The present invention teaches many important features not taught by Eyal. For example, only the present invention teaches referencing the following:

- 40
- a) Any number of related URLs by storing only a single template, rather than requiring a database to store each specific URL of a sequence of related URLs.
  - b) New media as soon as it is available and without first having to reparse a content provider's web page to find the URL.
  - c) Any specific reference of a sequence by specifying a single index value, rather than having to look through a long list of references

Claim 2 has been cancelled and rewritten as new Claim 24, to address the Section 112 Rejection and to more distinctly define the present invention over the prior art.

Claim 3 has been cancelled.

5 Claim 4 has been cancelled and rewritten as new claim 25, which now has a grammatical correction and more consistent wording.

Claim 5 has been cancelled.

Claim 6 has been cancelled.

Claim 7 has been cancelled.

Claim 8 has been cancelled and rewritten as new claim 26.

10 Claim 9 has been cancelled and rewritten as new claim 27.

Claim 10 has been cancelled and rewritten as new claim 28.

Claim 11 has been cancelled.

Claim 12 has been cancelled.

Claim 13 has been cancelled.

15 Claim 14 has been cancelled.

Claim 15 has been cancelled and rewritten as new claim 29. Eyal teaches (at Figure 9, Column 25 Lines 20-65, Column 10 Lines 1-20, Column 24 Lines 60-65, and Column 26 Lines 5-20, all as noted by Examiner) only adding URLs to be parsed, automatically adding metadata, verifying whether a link does return media, and manually adding metadata. Even when play-lists are discussed (Column 30 Lines 29-37), Eyal does not teach recording which media have already been played. In fact, Eyal compares play-lists to playing an album (Column 30 Lines 35-37) which plays the same every time, with no memory means to record what has already been heard. That is, Eyal does not teach recording what media has been played.

20 In contrast, the present invention teaches recording what media has already been played (specification page 17, 3<sup>rd</sup> bullet). Based on this and other factors, the present invention teaches several situations when media will not be played as a result of previously being played (specification FIG. 4, step 407, described on page 18).

Claim 16 has been cancelled and rewritten as new claims 32, 33, and 34.

30 Claim 17 has been cancelled and rewritten as new claim 31 to highlight an advantage of streaming media.

Claim 18 has been cancelled.

Claim 19 has been cancelled.

Claim 20 has been cancelled.

35 Claim 21 has been cancelled and rewritten as new claim 30 to highlight an advantage of storing media before it is played.

Claim 22 has been cancelled.

Terek (US Patent 6,804,700) teaches generating unique URLs for objects that **do not yet have URLs** (Column 3 Lines 17-18). This is not applicable to the present invention, as **the present invention requires that there already be a reference assigned** to the desired information. The present invention teaches unilaterally constructing references to sequences of such desired information, allowing  
5 a simple index value to be specified to construct any reference in a sequence of references to such desired information. The present invention can even construct references to desired information that has not yet been created (such as tomorrow's news report), so a central server does not need to be contacted to generate references to subsequently created desired information.

The postfix method taught by Terek (Column 10 Lines 30-44) is the direct opposite of the goal of the  
10 present invention. **Terek teaches a method of creating unique URLs, the present invention teaches creating URLs that must not be unique**, that is, they must exactly match those created and named by others.

The method taught by Terek (title, abstract, Column 3 Lines 14-15) has the goal of creating human-readable URLs (Column 3, Lines 16-17). The present invention cannot use this teaching, as the present  
15 invention must create references which exactly match those created by others.

Applicant respectfully submits that Eyal and Terek, alone or in combination, are not prior art as they do not teach methods of creating templates that can be used to unilaterally (and independently of the content source) generate a sequence of references that exactly match those of desired information, such as a daily talk show.

**20 The Rejection of the Claims under § 103 on Eyal in view of Terek and Geagan.**

As noted above, claim 1 has been cancelled and rewritten as new claim 23 to more particularly and narrowly define the present invention, for example, that the methods of the present invention do not teach producing unique URLs (as does Terek, title, Column 9 Lines 41-43), but rather of independently creating a template which is used to unilaterally construct references that exactly match sequences of  
25 references which have been determined by others. The present invention therefore enables media on remote servers to be accessed without having to always first parse a web page to obtain the corresponding URLs as is taught by Eyal (Column 22 Lines 49-50).

Also as noted above, claims 8-10 have been cancelled and rewritten as new claims 26-28 to more particularly and narrowly define the present invention, for example, that the index value is used to  
30 unilaterally construct references that exactly match sequences of references which have been determined by others. Eyal and Terek do not teach using a template to compactly represent and exactly match an existing sequence of references on a remote system.

Claims 11 and 12 have been cancelled.

Claim 16 has been cancelled and rewritten as new claims 32-34 to more distinctly define each feature of  
35 the cancelled claim 16. Examiner has cited Geagan (US Patent 6,263,371) as a prior art reference as Geagan teaches methods of filling-in lost packets in a media stream using packets from another stream. Examiner notes that "the sequencing process, the examination process, and seaming process described by Geagan must inherently calculate an offset value ...".

However Applicant submits that the methods taught by Geagan are not applicable to the present  
40 invention. Geagan teaches that streaming media packets have sequence numbers or timestamps (Column 7 Lines 56-59), and these are used to determine whether all packets are present and in the correct order. The problems of using this information to determine an offset value is discussed below.

1) If the packets have a sequence number, then it would need to be determined what time increment is represented by each successive packet, and this would depend on the media digitization rate, the number of media sub-channels in the stream (video, audio, text ...), whether the audio is in stereo, what the digitization rate is, and other factors.

Further, media formats are often proprietary (such as the RealAudio protocol used by Real Networks – note Geagan cites several papers from Real Networks as references).

Still further, these parameters are negotiated at the beginning of the session (Column 3 Lines 7-8 and 48-50), not simply specified.

Still further, if the packet size changes (note that streaming media supports different packet sizes (Column 5, top line of each packet)) or the media digitization rate is changed (Column 3 Line 55, Column 14 Lines 5-8), then it would be still more difficult to use the packet sequence numbers to determine how many seconds of media were received before playing was stopped as is required by the present invention (note that media players are instructed to begin playing at an offset according to time, not packet count).

Geagan has no teaching on how to convert packet sequence numbers to relative time, since packet sequence numbers themselves are all Geagan requires for checking the sequence of packets.

2) If the packets instead use a timestamp, Geagan teaches that this is the absolute “wall-clock” time (Column 5 Lines 29-32 and Column 11 Lines 3-7) at the content source, expressed as a 32-bit binary number (Column 12 Lines 8-11), and that every packet may not have a timestamp (Column 11 Lines 4-6).

Worse than that, there are two formats for a 32-bit timestamp allowed in RTP (Geagan teaches RTP as an example streaming protocol, Column 2 Lines 33-35), so it would need to be determined somehow whether the timestamp was in units of seconds or  $1/65,536$  seconds, as both are allowed in RTP (see RFC 1889).

That is, determining the number of seconds of media received would at least involve learning the format of the timestamp (Geagan has no teaching on this), storing the timestamp at the beginning of the stream, interpolating timestamps, and finding the difference to the last packet’s (possibly interpolated) timestamp.

These steps are not taught by Geagan, and may sound reasonable in hindsight, but Geagan solves a different problem (making sure packets are in the correct and complete sequence), and therefore has no need to calculate or determine the time offsets of packets.

As described above, the timestamps taught by Geagan are only for the purpose of finding missing packets. This is not a concern of the present invention, as the present invention has no teaching, limitations, requirements or capabilities concerning lost packets or transmission errors. Conversely, Geagan does not teach determining the total number of seconds from the beginning of a media stream (as is required and taught by the present invention), and there are several complexities in attempting to do so using the methods taught by Geagan.

Also, the rewriting of claim 16 includes the clarification that the “amount of information received until the media stream was interrupted” is the number of seconds media stream was played before it was stopped (for example, because that is all the user wanted to receive at that time), as recording this enables playing of the media to be resumed at a later time (when the user wishes to receive more), starting at the point where playback was previously stopped. The “interruption” of claim 16 refers to the user stopping, and later resuming playback of the media (specification, page 17, last bullet point and the paragraph following that).

Applicant therefore submits there is no justification to cite Geagan as prior art, either individually, or in combination with other prior art references.

## Summary

The cited references teach away from the present invention. For example:

- 1) Eyal teaches "brute-force" searching and indexing media – that is, making available each and only those media references found on web pages.

In contrast, the present invention teaches an analytical method in which a sequence of related references are examined to determine a pattern and a compact template is created which represents said sequence of references. The advantages of the method of the present invention include being able to represent any number of references in the sequence with a single template, and being able to generate references to newly created information without needing to first find them on a web page.

- 2) Terek teaches creating human-readable URLs from human-readable information and a method for ensuring these URLs are unique.

In contrast, the present invention uses templates to generate references which are not unique, and in fact, must match existing URLs which have already been assigned by others.

- 3) Geagan teaches filling-in lost packets using packets from other media streams, and reading each packet's sequence number or timestamp as a unique packet identifier as part of this process.

In contrast, the present invention teaches storing the number of seconds of media received before a user stops the media so that playback can be resumed at a later time when the user wishes to do so. The number of seconds of media received is not directly available from the method taught by Geagan (which examines packet contents), but is available directly from the media player, as taught by the present invention.

Also, Applicant respectfully submits that each of the above cited references, and the other cited references (US Patents 6,360,254 to Linden, 6,230,205 to Garrity, 6,466,970 to Lee, 6,542,933 to Durst), are each complete in themselves, and have no suggestion that any combination would be useful or needed.

Further, Applicant submits that none of these references have any teaching, separately or in combination, concerning representing the references to a sequence of periodically-updated information using a compact template, enabling a user to unilaterally generate references, without having to first obtain each reference from the provider of said information, and even being able to generate references to newly-available information.

## Conclusion

By the above amendment, Applicant has narrowed and rewritten all claims to define the invention more particularly and distinctly.

Applicant therefore submits that the invention is now defined patentably over the prior art, and this application is now in condition for allowance, which action is respectfully solicited.

Very respectfully,



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